R E M A R K S

Reconsideration of this application, as amended, is respectfully requested.

THE SPECIFICATION

It is noted that the specification has been reviewed and that various minor errors of which the undersigned became aware were corrected in the Preliminary Amendment filed February 5, 2002. If the Examiner becomes aware of any additional minor errors, the undersigned would be happy to cooperate to correct such minor errors.

THE ABSTRACT

Submitted herewith is a new amended abstract which has been amended to be shortened to fewer than 150 words and which is presented on a separate sheet, as required by the Examiner. It is respectfully requested that the amended abstract submitted herewith be approved and entered.

THE PRIOR ART REJECTION

Claims 1-15 were rejected under 35 USC 102 as being anticipated by USP 5,138,355 ("Morisawa"). This rejection, however, is respectfully traversed.

According to the present invention as recited in claim 1, a lens driving device is provided which comprises a single

driving source for changing the focal length value of a lens optical system and the aperture value of an aperture device, and a driving member driven by the single driving source for performing driving to move a moving lens group frame holding a moving lens group of the lens optical system to achieve a desired focal length value of the lens optical system from among a plurality of focal length values, and for then performing driving to change the aperture value of the aperture device while maintaining the desired focal length value. Independent claim 9, moreover, similarly recites a single driving source for driving thed moving lens group frames and for driving to change the aperture value of the aperture device.

Thus, the claimed present invention provides a lens driving device having only a single driving source for changing both the focal length value of the lens optical system and the aperture value of the aperture device.

Significantly, it is respectfully pointed out that the change of focal length value as recited in the claims of the present application corresponds to a zooming operation. That is, the recitation of "changing the focal length value" as recited in claim 1, for example, means changing the focal length peculiar to the lens to achieve zooming. In this connection, it is noted that the position where an image of an object is formed is movable, and that after focus adjustment (i.e., focusing) is completed, the focal length value can be changed while the image is focused so

that only the magnification of the image is changed. And it is respectfully pointed out that term "focus adjustment" corresponds to focusing with respect to the object as to whether the image is formed clearly or not, whereas the claimed recitation of "changing the focal length value" corresponds to zooming.

Morisawa cited by the Examiner discloses a zoom barrel 44 for changing the focal length (to achieve zooming). As disclosed at column 3, lines 4-19, this zoom barrel 44 drives two frames 38 and 30 by a motor M to change the focal length. In addition, as disclosed at column 3, line 20 to column 4, line 42, a step motor 46 is provided which drives focusing of a lens 34 of a preceding group and which also drives the diaphragm. In other words, in Morisawa, a motor M is provided for driving the zoom barrel 44 to change the focal length, and an additional step motor 46 is provided for driving focus adjustment and adjustment of the diaphragm. Namely, two separate motors (motor M and step motor 46) are provided for respectively changing the focal length value and the aperture value.

By contrast, as pointed out hereinabove, the lens driving device of the present invention as recited in claim 1 has only a single driving source for changing both the focal length value of the lens optical system and the aperture value of the aperture device.

It is noted in the Office Action that the Examiner asserts that "the lens groups 34 and 40 [of Morisawa] are moved by

focusing adjusting plate 48 to vary the focal length". It is respectfully submitted, however, that this assertion is clearly wrong because the adjusting plate 48 drives only the lens 34 of the preceding group and effects focusing. Changing of the "focal length", by contrast, is effected by rotating the zoom barrel 44 by means of the motor M and moving the lens groups 34 and 40.

With respect to claim 9, moreover, it is noted that the Examiner asserts that "the adjusting plate 48 [of Morisawa] moves the lens groups 34 and 40". It is respectfully submitted, however, that this assertion is also wrong.

In summary, it is respectfully submitted that the Examiner's rejection of the claims has resulted from confusion between the meanings of "focus adjustment" (which corresponds to focusing an image to be clear) and "changing the focal length value" (which corresponds to zooming). And it is respectfully submitted that this confusion has led to a misunderstanding of the teachings of Morisawa. As explained hereinabove, Morisawa in fact discloses two separate motors (motor M and step motor 46) for respectively changing the focal length value and the aperture value, whereas the lens driving device of the claimed present invention has only a single driving source for changing both the focal length value of the lens optical system and the aperture value of the aperture device.

Accordingly, it is respectfully submitted that the claimed present invention patentably distinguishes over the teachings of

Morisawa, taken singly or in combination with any of the other prior art references of record, under 35 USC 102 as well as under 35 USC 103.

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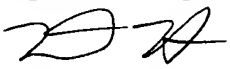
In view of the foregoing, entry of this Amendment, allowance of the claims and the passing of this application to issue are respectfully solicited.

If the Examiner has any comments, questions, objections or recommendations, the Examiner is invited to telephone the undersigned at the telephone number given below for prompt action.

Respectfully submitted,



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ABSTRACT ~~OF THE DISCLOSURE~~

is provided which includes

A lens barrel incorporating a lens driving device ~~has~~ a fixed frame, a cam ring inserted into the fixed frame in freely rotatable fashion, first and second group lens frames inserted into the cam ring enabling free forward and backward motion, and an aperture ring supported by the first group lens frame in a freely rotatable manner. In the ~~above~~ cam ring, there are provided a diagonal cam groove which drives the first and second group lens frames to zoom positions in stages, circumferential-direction cam grooves which hold each zoom position, and aperture cam grooves which drive the aperture ring. In a state in which the first and second group lens frames are positioned and fixed at respective zoom positions, the cam ring can be rotated to rotate the aperture ring, thereby setting the aperture value of the pickup lenses.

~~By means of the lens driving device of this lens barrel, a simple configuration can be used to combine and set a prescribed zoom value and an arbitrary aperture value.~~

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